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ABSTRACT

The Consumer Resources Environteam has developed this idea handbook as part of the Broad Spectrum Environmental Education Program in Brevard County, Florida. Interest had been displayed by local civic groups, fraternal clubs, and private organizations in identifying environmental improvement projects that could be undertaken by individual groups. The Environteam thus saw the need for a coordinated, combined approach to resolving the problems, utilizing total effort and talents of multiple groups. To this end, presentations were given to various groups to stimulate their interest in the local area ecology, improve their environmental awareness, and encourage them to develop constructive projects for the betterment of the county. The main portion of this ideabook consists of five such presentations. They deal with problems, possible solutions, and improvement ideas/projects associated with Brevard's beaches, recreational areas, bike paths, solid waste disposal, and waterways. In addition, 14 other projects which keep the public ecologically minded and stress moral responsibility are briefly described. These range from grocery bags and other reusable containers to project awards, media public service announcements, and organic gardening. This work was prepared under an ESEA Title III contract. (BL)

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CONSUMER RESOURCES IDEA HANDBOOK

SE 014 912

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TEACHERS ENVIRONMENTAL
RESOURCE UNIT:

CONSUMER RESOURCES IDEA MANUAL

(Brevard County Problems
with Possible Solutions)

Developed by the
CONSUMER RESOURCES ENVIRONTEAM
as a portion of the

Title III, ESEA Project DOE, #050-72003
"BROAD SPECTRUM ENVIRONMENTAL
EDUCATION PROGRAM"

(Pilot/Planning Phase)

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PREFACE

The decision to develop a Consumer Resources Environteam approach toward solution of community environmental problems was arrived at because of two apparent needs:

First, the enthusiastic interest in the environmental issue displayed by local civic groups, fraternal clubs and private organizations. This active interest had resulted in repeated telephone inquiries to the Center for Environmental Education for assistance in the identification of "real life" projects that could be undertaken by individual groups.

Second, a strong belief that certain major problems in the County could be resolved successfully by a well-coordinated, combined approach utilizing the total effort and talents of multiple groups. This attack should enjoy a high probability of success, if the combined manpower and assets of perhaps five to ten groups were directed toward one unified goal.

The latter approach recognized the limited or marginal achievement which had resulted from a number of project/problem approaches undertaken by individual organizations.

As a result, one hundred sixty-four Womens Clubs, Jaycees, Kiwanis, Rotary, Garden Clubs, A.A.U.W., Jr. Womens Leagues, Boy and Girl Scouts, Home Owners Associations, P.T.A's, Moose Lodge, Church Organizations, etc. were invited to join with members of the Environteam in open meetings to discuss, organize and develop a limited number of constructive community projects.

The initial response was gratifying and thirty-eight groups responded with the official appointment of a member of their organization to serve as their spokesman.

The first few meetings consisted of brief presentations to the assembled representatives by the Environteam members; discussing Brevard's problems and possible solutions, with follow-up group meetings on what initial projects should be undertaken.

At this point, the major weakness in our contemplated approach started to surface and become apparent.

Although the many organizations were sincerely interested in the development and execution of meaningful projects; they much preferred to do this on a singular (rather than combined group) basis -- and thus retain their separate identity. For instance, certain Kiwanis Clubs were not interested in joint participation with Rotarians or Civitans; the Girl Scouts preferred not to share projects with School Groups or Boy Scouts; and Garden Clubs were reluctant to share plans or divide accomplishments and credit with other Womens Clubs, Art Associations or the American Association of University Women.

They were quite emphatic in pointing out that they were seeking ideas, not multi-group coordination! Further attempts toward development of the coordinated approach, more forcefully clarified this impression; therefore, the Environteam revised their program to concentrate their efforts toward generation of ideas and projects suitable for adoption by these groups.

Thirty-seven presentations have been given by Center and Environteam personnel to members of civic organizations and private groups to stimulate

their interest in the local area ecology, improve their environmental awareness, and encourage them to develop constructive projects for the betterment of Brevard County.

Generally speaking, the results have been gratifying. A majority of the organizations have undertaken the establishment of environmental improvement goals, and many have commenced action leading toward certain definite projects. Very few projects have been completed by this date, but the progress and end results of all projects undertaken will be reported in future issues of this handbook.

The main portion of this idea handbook consists of five "essay-type" presentations that have been given by members of the Environteam to local organizations to stimulate their ecological thinking and desire to achieve environmental improvement goals for Brevard County.

This manual is presented to fulfill promises to these community organizations -- of an overall summary that would be of use in their individual groups and which could also be issued to their membership. No claim is made as to the completeness of presentation or the total encompassing of all ideas, in this, the first issue of the handbook.

AND NOW A WORD TO OUR SUPPORTING ORGANIZATIONS ...

Our major goal, initially, was to do everything within our capabilities to assist you and your club to participate in and develop environmental improvement projects. That goal remains unchanged at the end of the first year's operation, although our approach has been varied somewhat.

You will note that the text and illustrations are printed on only one side

of the paper. This gives you an opportunity to make notes, record suggestions or list new projects on the adjacent sheet or the back of the regular page.

We strongly encourage you to actively use, this -- your manual and earnestly solicit your suggestions for improvement of future issues.

Good Luck and Let's "Keep in Touch"!

C. W. Bemiss

I. BREVARD'S BEAUTIFUL BEACHES

(Joan P. Cacciola, Gardendale Elementary School)

As a technological animal, man has been able to harness nature; and driven by a social, rather than a biological need, he has devised means of gaining wealth by "conquering" the elements. This technology is governed by requirements conflicting with those that govern nature. The end result is an environmental crisis, a "crisis of survival."

When we examine our beaches, especially in Brevard County, we can see what man's technology has produced. In the beginning, nature's plan consisted of an unbroken circle of events, an ecological cycle, which revolved around the concept that "death is life." In other words, nature would produce A, and when A died it became the life giving substance for B, and B's death became the life support for C. The cycle was unbroken for centuries until man, the technological creature, appeared on the scene. Where once there was a balance between the sea and its creatures, now man has upset the balance to a point where the sea has lost the great life-death harmony and the balance is tipping dangerously toward self-destruction.

What has man done? Unfortunately, man's technology did not fit in with nature's ecological cycle. Machine A would produce product B and when product B's usefulness had finished it was thrown away, no longer of any use to any of nature's creations.

What has been the result of this technology? All those products of technology, the cans, the bottles, the plastic suntan containers, the styrofoam coverings for food, etc., all those things that man's technological genius has created to make his life more convenient have begun to pile up. Where are they piling up? Beaches are cluttered with technological junk. The ocean floor is becoming lined with products that are of no more use to man and are also of no use to nature.

In nature, every effect is also a cause. When an ecosphere is ecologically balanced, the effects and the causes are for the good of everything in that particular ecosphere. When the balance is broken, the effects which produce causes become more and more abnormal; and eventually the abnormal usually is destroyed. Man's alien technological products have forced nature's "survival of the fittest" law to appear in almost a war-like state rather than the state of peaceful-co-existence that once reigned.

Of the three major ecospheres on earth: land, air, and water, the water is by far the greatest supporter of life. Life generally can be supported only in the top most layer of the land where nature has provided humus, the life giving mixture of dead plants and animals. The atmosphere generally gives support to life in its bottom most layer. In this layer, the wastes product of plants O_2, is the life support for animals; and the CO_2 given off by animals, is a necessity of life for plants. The ocean, on the other hand, is life giving from its top to nearly its bottom most layer. It was created to be a self-sufficient sector which could maintain an even balance of life and death. The ocean is becoming, more and more, a major source of life support to man, since man has degraded a great deal of his three basic resources; air, food, and water on the earth, and in the air above the sea through pollution.

Because the ocean is at the moment capable of being saved, we must put a great deal of effort into this ecological fight. What can be done by the community? How can Brevard County save its beautiful beaches? Hopefully the community is aware of the fact that these beautiful natural settings are for the most part a large part of this area's economy as well as being

a breath-taking gift of nature that should be saved.

It would appear that the answer is very simple. Clean the beaches, do everything scientifically possible to fight erosion, and make a major effort to stop the pollution of our oceans by major industries and by private citizens as well. Although the answer is simple, the transaction of the answer is another problem in itself. This environmental crisis has not come about through a historical web of social, economic, and political forces which has so entangled us, that the solutions to any ecological problem, no matter how easy it may seem in theory, are difficult to put into practice.

Then what can we do? There must be a rational, informed, and collective social action. The question is how are we to get this social action started. It starts with "Mr. Average Citizen" picking up a can he passes on the beach and depositing it in a litter barrel. It's carried on by interested community groups who take it upon themselves to form beach patrols and 4-wheel drive clubs which continue this clean-up. Other groups could be

formed to install more litter barrels, and maybe even make them attractive and part of the setting by painting them. Still others could work on the legal aspect by looking into laws to force businesses along the beach to be ecologically minded in their use of beach-front property, or even to do something as simple as pressuring the local authorities for more frequent emptying of the litter barrels already on the beach. How many times have you seen a litter barrel with three feet of litter strewn around it, because it had not been emptied frequently enough? This is not only an eyesore, but it is dangerous and disease breeding.

The most important word to remember when working for ecology is "awareness." Everything that is done by you or your community group is just another step in making the public aware that there is a problem. That is ecology's biggest problem. The public is not aware that the problem exists, or if they do, they do not recognize that it is a problem of such magnitude that it will drastically effect the total population of the earth. In many cases, pollution has already shown its shroud of death.

Our beaches, along with all the other major earthly eco-spheres, will only be saved by man's technology walking hand in hand with nature. We will have to sacrifice. We will have to spend money, we will in other words have to do without some of our technological creations so that our children and our children's children will not have to do without the basic requirements needed for the most beautiful creation of all--life.

Suggested Active Projects for Community Groups

1. Provide a greater number of litter barrels (20-55 gal.) on Brevard beaches, spaced sufficiently close to encourage greater use. (Kiwanis, Rotary, Jaycees, Civitans, etc.)

2. Paint the barrels in an attractive manner with a message to encourage pride in neatness and cleanliness. (Womens' Clubs, Art Associations, School Projects, Girl Scouts, etc.)

3. Develop a regular schedule for emptying and cleaning up the area during hours of least use. (Jaycees, Boy Scouts, Civitans, Jr. Deputy Sheriffs, etc.)

4. Encourage and support volunteer 4-wheel drive clubs to remove driftwood and other litter/trash washed in by the tides. (Off-road vehicles, Recreation Clubs, Jeep Patrols, etc.)

5. Develop a powered beach "sifter" to screen the top sand on a regular schedule for removal of glass, pop-tops, etc. that might be harmful. (Conservation Groups, Grange Organizations, Recreation/Parks Committees, Beach Protection Groups, etc.)

II. RECREATIONAL AREAS AND BIKE PATHS

(Charles D. McNeal, Saturn Elementary School)

Brevard County has a population of approximately ~~470,000~~ 230,000 people. Over 90% of these people live in a strip of land approximately eight miles wide and 74 miles long. Although this strip of land is, for all practical purposes, a continuous city; it is administratively divided up into small towns and unincorporated areas. Along with the small independent cities, the inclusion of the several federal missile/space research projects and operational military areas makes any county-wide project difficult to accomplish.

The population of Brevard County is rather unique. Due to the large missile/space research programs carried on in the county, with their demand for highly trained personnel, Brevard County has a large quota of technical and professional people. The pressures encountered in their work are relieved by outside recreational activity. A large percentage of homes have boats of varying sizes and shapes parked in the driveways.

The several golf courses in the county are open to the public; and on weekends, one can witness the frustrated space worker relieving his tension, pursuing a golf ball. At the same time Brevard County has an active recreational department that provides several recreational parks throughout the county. There are miles of beaches with white sand where one can toast his skin to a golden brown. Fishing in the ocean, in the salt water rivers and

canals, in the fresh water lakes and canals, and in the fresh water St. John's River also represents a major outdoor sport. Water skiing and all forms of water sport are readily available.

Camping areas and boat ramps can be found throughout the county.

One of the major problems in Brevard County concerns the absence of a countywide rapid transit system. At the same time, the elongated shape of the county with the separated activity centers has created a highly mobil citizenry dependent on their own means of transportation. To help solve the traffic problem, numerous new roads and causeways have been built. Highway designs have been improved to help carry the flow of motorized traffic. Mr. and Mrs. John Q. Public and family have moved in another direction that, at the moment, creates an entirely new problem; the use of two and three wheeled vehicles that are self propelled to replace the motor driven vehicle. Enter the hero, or the villain, depending on

your particular viewpoint, the recreational cycle.

Thirty years ago the trouble with bicycles had to do, for the most part, with their physical limitations. There was only one type of bike in common use. This was the old balloon tire, single speed, child's bike. There was a psychological stigma placed upon a grown man or woman riding one. High school students looked on bikes as evidence of poverty, anyone with enough money bought a car. At the same time speed limits and motor traffic was down and the children kept their bikes in their neighborhood. The only pathways for bikes were those associated with the neighborhood schools. Several things were to happen that would change this localized picture completely.

President Johnson had a heart attack and Dr. White leaped into national prominence. One of his recommendations for preventing heart attacks was proper exercise. One of the best exercises was riding a bicycle. With one stroke, bicycle riding was removed from the childrens domain and made into a worth while adult activity. At the same time returning soldiers brought with them memories of entire nations moving, for the most part, on two wheels. Coupled together, these two factors removed the bike from the neighborhood and placed it on the highways where the congestion was great and the speed limits were increasing every year.

The last great change that propelled the bike into full fledged maturity was a technical one. Whenever the demand becomes great enough, science comes to the rescue. Although the bike is used by most adults as

a means of getting exercise; at least this is what most adults will strongly maintain; the old balloon tire, single speed bike provided too much exercise. Manufactors in the United States and abroad were quick to recognize this quirk in the American nature. Science made gigantic strides and today you can purchase a ten speed, narrow tire, racing bike at any department store. Now one can get his daily quota of exercise with the expenditure of very little effort.

The ever increasing number of bike riders has drastically emphasized the need for new and improved bike ways. The failure of the various highway designers to include bike paths in original construction has resulted in a system of highways for high speed motor traffic where the bike rider is in extreme danger. At the same time, according to Florida State law, the bike rider is considered to have as much right on the highways as a motor vehicle. In fact, the bike rider has, from a safety standpoint, little or no right on a major highway. The impediment of normal traffic flow plus the hazard of a ten to fifteen mile per hour vehicle being overtaken by a forty-five plus mile per hour vehicle clearly emphasizes the danger. In the future, pre-planning for bike paths must be of paramount importance in all highway construction.

At the present time Brevard County is attempting to solve the bike path problem on two different levels. The Girl Scout Council and North Brevard Environmental Action Group, in conjunction with the Brevard County planning department, is developing a countywide bikeways system. This system is designed to unite all of the individual area's systems into the countywide network. Due to the local civic pride of each area, the second level of attack is at the community level. Each community is developing their own plans for bike ways.

The communities are considering the following methods of creating new bike ways:

1. On one side of the street, eliminate "on-street" parking. The parking space can be changed into a restricted bike way.

2. One way streets are being created with one-half of the street being used as a bike way.

3. The creation of bike paths on donated right-of-ways is being recommended where ever possible.

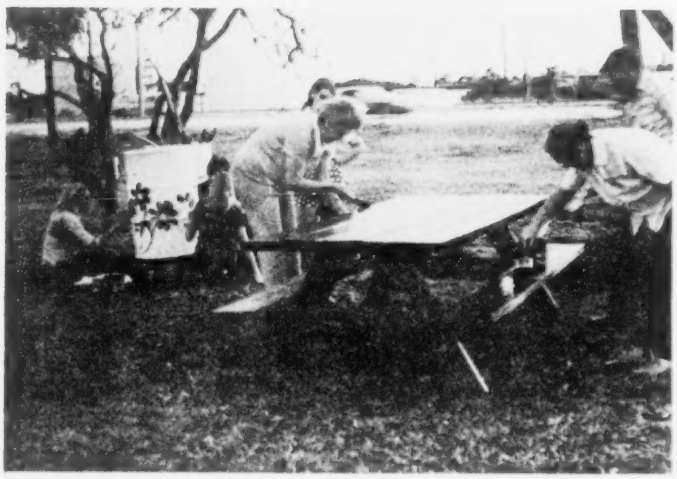
The creation of new bike paths has pointed out a drastic need; the reduction of cost in construction. There are two ways that the cost of bike paths may be reduced: the first of these is by the development of cheaper construction materials; the second way is by changing the construction requirements from a subsurface for heavy vehicles to one of light usage. In order to accomplish these changes laws must be changed to reflect these needs.

At the moment Brevard County has very few bike paths. Most of those in existence were designed for the movement of children from home to school and back. Some of these paths have signs devoted to safety. Most of them are lacking any safety signs at all. Those that have signs need maintenance on them. This has resulted in two projects now being activated by the North Brevard Environmental Action Group. The first of these is a Bike Path Sign Maintenance program. This project repairs and repaints all safety signs now in existence in Brevard County. The second project concerns itself with the creation of new safety signs designed specifically for school children or those who will use the paths. These newly created signs will become an integral portion of the first project upon their completion.

Having developed a bike way for the entire family to use on their Sunday outing, we are left with having to furnish them somewhere to go.

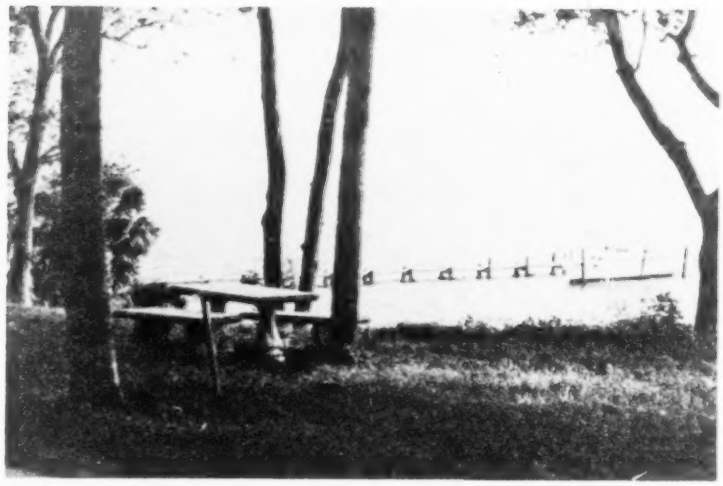
Although Brevard County has many recreational areas, there are not enough. We are a County of some, not a County of enough. We need parks, picnic areas, fishing areas, nature trails, scenic drives, and maintenance for old areas as well as any new ones we might create.

Many parks and picnic areas in Brevard County have become trashy and overgrown with weeds and sandspurs. These parks are being rehabilitated at a rapid pace. The trash is being gathered and removed. At the same time trash containers are being painted with modern designs that are appealing to the eye as well as providing a message. Grass is being mowed and bare areas replanted with grass and flowers. Picnic tables and benches are overhauled and repainted. The accompanying photo shows the Community Resources Environteam in the process of rehabilitating a park in Rockledge. Some civic clubs have taken over a park as their pet project. An example is the Cocoa Beach Women's Club



and their work with Fisher's Park.

Many new parks are being created in Brevard County. While a few of these are the traditional park and picnic area, many are mini-parks. The mini-park is created at any scenic spot where there is room for a bench or picnic table. There must be provisions for garbage/trash receptacles at every mini-park. There are two main advantages to the mini-park. They can be created on any small particle owned by the county.



Another type of park being created in Brevard County is the nature park. Paths winding through the park reveal many of the natural beauties of the park, at the same time protecting them from destruction by the visitors. The only change made by man in these parks is for the protection of the natural settings. In all parks, trash cans are readily available and emptied on a regular schedule.

Like most areas where new construction has recently taken place, Brevard has many highways and bridges that stand out in stark ugliness. The Indialantic Rotary Club is beautifying these areas by planting trees and bushes. The Eau Gallie Rotarians are also providing trash receptacles for use on the causeways.

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At the same time the Women's Clubs throughout the county are planting flowers in areas where trees would be detrimental.

There are many other projects being carried out in Brevard County. All of these are concerned with improving the quality of life. We have a wonderful county with many advantages that are lacking in other areas. It is our privilege and duty to not only maintain, but recover and restore the natural beauty that has been degraded or destroyed.

III. SOLID WASTE DISPOSAL

(Lawrence J. Bechtel, Roosevelt Junior High School)

According to recent estimates, each person in the United States produces 5.5 lbs. of solid waste per day! This is enough to fill a fleet of giant semi-trailers that, if placed end to end, would circle the globe twice!

The subject of solid waste is a complex one. However, a thorough discussion of this topic would have to include answers to the following four questions: (1) What is solid waste? (2) Where does it come from? (3) How is disposal of it handled today? and (4) How are we going to handle it in the future?

Let us treat each of these questions in turn. What is solid waste? The best way to define this term is to do so in a negative sense; anything that does not go up a stack or down a drain. The most common form of solid waste is what we collectively call "garbage". However, the solid waste category should be broken down into at least three subdivisions.

The first is municipal refuse. This is the part of solid waste with which we are most familiar - the contents of our garbage can. This is the material that is picked up by city employees or private concerns and carried to open dumps, landfills, or incinerators.

The second is garbage. Municipal refuse and garbage usually are considered to be synonomous. Actually, garbage refers to putrescible material; i.e., that portion of municipal refuse coming exclusively from food wastes. Only 14% of our municipal refuse is actually garbage.

The third is litter. Although litter has about the same composition as municipal refuse, it does not find its way into a municipal collection facility. It instead is scattered all over the landscape. Litter makes up only a very small fraction of the solid waste generated in this country, but it is seen by everyone along roads, in waterways, and along beaches. It defiles the beauty of our landscape.

Where does all of this solid waste come from? Who produces it? At one time, most solid waste was biodegradable and was naturally recycled. Today, however, synthetic materials and the increasing trend toward "disposable" containers of plastic, aluminum, metal, and treated paper creates a type of solid waste which does not decompose in our environment. In 1970, about 9.4 million tons of plastic was produced. Plastic is not biodegradable, and thus is either dumped or burned (or both). However, many types of plastics produce toxic gases when burned, and these gases get into our air, soil, and water supplies.

Aluminum, being resistant to oxidation (once its "protective" oxide is formed) does not decompose in the environment, nor does burning decompose it. In 1970, we produced 70 billion cans (aluminum and other metals), and if we drive throughout the state of Florida, we can see some of the 8 million soft drink and beer cans that litter our roads each year.

How do we get rid of the 360 million tons of domestic and commercial trash produced each year in the United States? There are currently only three places where we put our trash - the land, the air, and the waterways.

Air and Land - In Florida, solid waste disposal consists mainly of finding a place to dump or burn it. Only 2% of the land disposal sites in the state can be classified as sanitary landfills. The others are usually a swamp, sinkhole, or pit. These dumps contribute to air pollution when burned and breeding of rodents, flies, and mosquitoes when the refuse is left exposed without burning.

Incineration methods have been tried in the state, but few Florida incinerators meet federal and state air pollution standards. Even if they do, the rash of new "disposable" products being developed creates new toxic substances that the incinerators cannot dispose of harmlessly. Brevard County considered installation of three incinerators in the geographical areas of the county, but rejected this plan in favor of a shredder for sanitary landfill.

Sanitary landfills represent a marked improvement over other methods of solid waste disposal. Here, the trash is compacted, spread over a designated area, and then covered with dirt. The end result is alternating layers of trash and dirt. When the landfill is completed, a park or some other public facility can be located on the site. However, Florida has a rather high water table, and there is a strong possibility that leeching into the Florida aquifer may occur, thus contaminating municipal water supplys. The use of a "shredder" (with compaction) for sanitary landfills is the chosen direction for our county installations.

Water - There are hardly any streams, lakes, and rivers in the United States that are not polluted to some degree. Much of our solid waste finds its way into our valuable water resources. Both industry and the general public can take credit for this. Industries located along waterways pulverize their solid waste and dump it into the water. Human waste (feces) can be seen floating in marinas due to lack of proper facilities for disposal. Perhaps the biggest problem in the area of disposal of human waste is inefficient sewage facilities (or lack of them altogether).

What more do we need to do? How are we going to be able to cope with the increasing amount of solid waste produced every year? Present methods of waste disposal are not going to be satisfactory in the future. Compacting in a landfill will reduce waste volume by only 50% and incineration will reduce the weight by about 70%. We still are going to run out of suitable land for landfills, and we have to get rid of the ash produced by incineration.

The obvious answer to the problem is to create less solid waste. With our population increasing rapidly each year, this seems impossible. Since our major problem with solid waste lies with the non-biodegradable materials (i.e., glass, metals, plastics, etc.), we have to stop throwing these materials "away". We need to get the industries who are producing these materials to cut down on production of virgin materials, and start reusing materials that are presently "thrown away". This is recycling!

Today, many industries are "seeing the light". They realize that paper, glass, and aluminum are too valuable to let sit in an open dump. They are starting to use some of our solid waste as raw material in the production of their product.

How are things in Brevard County? Brevard County with its population of 230,000 (1970 census) is, at present, in fairly good shape. Our air is remarkably clean. Part of this is due to ocean breezes which keep the air circulating, lack of heavy industry, and to a county ban on open fires; but we are not without our problems. We still have to find a place to dispose of approximately 8.9 million pounds of solid waste per week. We have our share

of litterbugs who decorate our roads, waterways, and beaches with solid waste. We have open dumps and sanitary landfills. But we <u>are</u> doing something.

Many civic and school groups in our county are volunteering their efforts to help solve the problem of solid waste disposal. Ecology classes at the local schools and certain churches are actively involved in collecting paper, glass, and aluminum, as are the Girl Scouts. The East Coast Paper Stock Company accepts newspapers, magazines, IBM cards, etc.. Reynolds Aluminum Company has a "Keep America Beautiful" truck that pays weekly visits to the north part of the county, offering 10¢ per pound for aluminum cans. Efforts are being made to get more of these trucks to come to the county on a regular basis. Carroll Distributors, a local beer distributor, also buys aluminum at 10¢ per pound from those organizations that have collected it.

The city of Rockledge, Florida, is currently experimenting with the separate collection of paper by the city for the purpose of recycling. They report this collection procedure is self-supporting financially (but just barely).

Civic groups in the county are currently planning to make a concerted effort to clean up our environment, as well as to get some sort of a recycling

schedule established.

Plans are currently being made to provide more trash receptacles at areas frequently visited by the public. Efforts are being made to make these receptacles attractive and informative, as well as easy to care for. Conveniently located attractive sites for collecting recyclable materials are now being planned.

All in all, our county is actively working to put us first in environment in the state - - we've had a good start.

IV. WATERWAYS

(Patricia E. Denninghoff, Merritt Island High School)

Brevard County is located on the East Coast of Florida, and therefore its beautiful inland waterways, as well as its beaches, constitute its main attraction for residents and tourists alike. These waterways include the brackish Indian and Banana Rivers and their tributaries, such as Sykes Creek, and the St. John's River which is a fresh water stream. Fishing and water sports of all kinds take place upon these waterways. The entire county has become fairly heavily populated in a short period of time due to the location of Patrick Air Force Base, Cape Kennedy Missile Base and Kennedy Space Center. This population has also brought problems of pollution to our waterways.

One of the major forms of pollution is human waste, which includes sewage disposal from residential areas and from large boats and ships dumping these wastes into our waterways. At the present time there are many primary treatment sewage disposal plants in the county. The communities are becoming increasingly dissatisfied with this treatment which destroys only 80-85% of the bacteria associated with human wastes. In addition, the nutrients which are dumped into the waterways lead to increased eutrophication and complete disruption of the ecology of the stream. Various of the homeowners' associations are attempting to have something done about this, and have been working with the Environmental Protection

Agency on the problem. One local community, Cocoa Beach, and one nearby commercial concern, Walt Disney World, have installed very effective tertiary treatment plants, which not only destroy 99%+ of the bacteria, but also remove nutrients, such as nitrates and phosphates from the water. Cocoa Beach does this by using the effluent, which has had secondary treatment (99%+ of bacteria destroyed) to water a large recreational area, including a golf course. This effectively removes the unwanted nutrients, returning the "filtered" water to the water table. Civic organizations in the area are striving to require secondary treatment, and recommend tertiary treatment.

According to Jane Robinson, Florida State Legislator, every state except two, Florida and Mississippi, have legislation requiring holding tanks on boats and requiring pumping stations at marinas and docks selling gasoline. There is no legislation on the state level at the present time because of the large capital investment needed to provide a pumping station. Past attempts at corrective legislation was fought by marina owners, boat industry lobbyists and representatives of over 55,000 registered boat owners in Brevard County alone. It is ironical that there are currently no pumping stations in Brevard County on our waterways, but pumping stations are required for travel trailers and camper wagons. If one can be afforded and controlled why not the other??

Another related problem is the establishment and enforcement of bulkhead lines for developers use. Violaters of this important parameter may cause destruction of the ecology of the stream. The Titusville community has requested the Ecology classes at Jackson Junior High School to study the situation and recommend possible solutions to their particular problem related to bulkheads and filling of the Indian River for a considerable distance from the present shoreline.

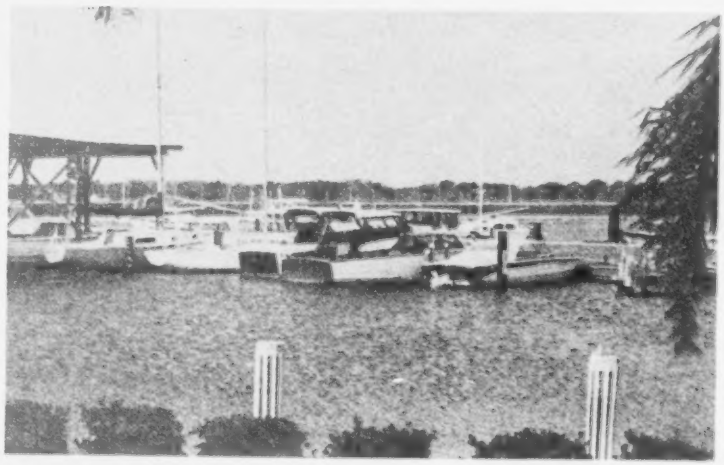
The next problem of importance in our waterways concerns the presence of trash and litter thrown into the water and large

wrecks of both autos and boats which have been dumped.

The Meritt Island High School Ecology Club, in conjunction with a class of sixth graders from Gardendale Elementary School and the local Power Squadron, have cleaned up some of the residential area canals on Merritt Island. The youngsters were transported by the Merritt Island Women's Club, for a joint community effort. We hope to do more in this area of environmental cleanup.

Suggested Projects for Concerned Civic Groups

1. Working with our county and state senators and representatives, develop regulatory legislation requiring any boat or yacht having on-board sanitary facilities to include an adequate volume "holding tank" which can be emptied only at an authorized pumping station. Every yacht traversing the Inland Waterway should be required to meet this regulation.



2. Develop further legislation requiring that all marinas have adequate and immediately available pumping station facilities--before an operational license or permit is granted.

3. Develop local and county-wide ordinances to prevent living "on-board" boats in a marina--unless facilities for connection to a sewage treatment plant are in effect. The old practice of just "pumping it overboard" must end.

4. Encourage local yacht clubs, boating organizations and Power Squadrons to develop a plan and schedule the removal of old boat wrecks, unsightly trash heaps and discarded auto bodies from various locations in our waterways.

V. UNCLASSIFIED PROJECTS

(Rebecca B. Penwell, Satellite High School)

There are some environmental activities that are not logically listed in any special category, thus they are best considered as "unclassified projects." Among them are suggestions which keep the public ecologically minded, stress moral responsibilities of all age groups, and may even add to the families' coffer!

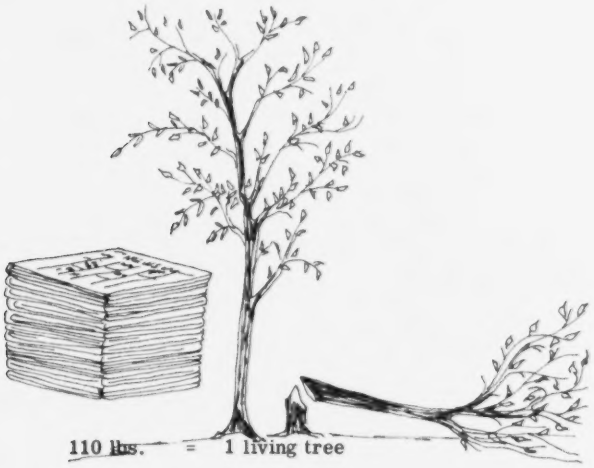
Listed here are some suggested ways to pursue ecological involvement, of which some have been active in Brevard County.

Eco-Example #1

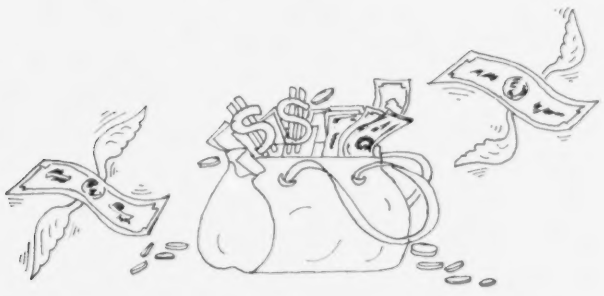
The cost of paper grocery bags are a part of the total food bill, as well as a part of the total garbage pile. Here in Brevard County there are about fifty major grocery supermarkets, using approximately 10,000 paper bags each month. The overall cost of the paper bags totals around the amount of $10,000 per month!

These savings could be passed on to the customer by reusing paper bags returned to the store by the public, or by advocating the use of a cloth-type grocery bag. This would have a big impact on ecology in at least three ways: (1) by cutting down on the disposal of large quantities of wasted paper products; (2) by the reduction of the number of pulp trees used, i. e. 110 pounds of paper is said to equal one tree; and (3) the compressed paper

or bags could be recycled into other paper or bags again.



The general public could be urged to use individual, reusable cloth grocery bags of their own and in return receive an equivalent bag-cost deducted from the total food bill; or when purchasing over $7.50 and using one's own bags, have the privilege of purchasing one pound of coffee at a special price or perhaps a dozen eggs with a discount. Local merchants could be approached with the idea. The idea being that "ecological mindedness" is being stressed by way of the consumer's purse.



Eco-Example #2

Encourage food stores to recycle their empty cartons. Some of our local chain stores have worked out a routine with their freight trucks so when deliveries are completed, they load up the empty cartons from previous deliveries to take back with them to the supply warehouses, where a recycling schedule is in effect.

Eco-Example #3

A civic minded group could survey their local business houses, collect information as to the ecologically favorable programs they have in effect, compile the information, publish it on reclaimed paper and make copies available to participating businessmen and local homeowners. This would serve as a source of information as to who is doing what, and also encourage competition among businesses to try to be the leader. The competition could be stimulated by award presentations--made, naturally, of some recycled materials; certificates of merit printed on reclaimed paper; and exclusive media coverage to make the public aware that the so & so supermarket is helping to protect our environment.

Eco-Example #4

At the same time when interested groups are working to compile information about ecological activities accomplished, some awards and recognitions could be given for projects already performed by civic organizations, private or fraternal clubs and individuals who have contributed significantly to the ecology of the area.

Eco-Example #5

Encourage the development of a unique arts and crafts show exhibit generated from recyclable materials. The use of broken jewelry glued on empty cigar boxes, powder boxes and the various plastic containers lined with scraps of velvet or satin would create a lot of interest, and certainly some attractive results. The amount of materials kept out of-the garbage

pile may not be monumental; but will help to keep the involved persons, and viewing public, conscious of the idea to "throw-out-less."

Eco-Example #6

The re-use of plastic bottle containers should be in a category by itself; for here is the source of everything from doorstops to ladies purses, to swimming pool floats and pool marker ropes. A contest for designs may be appropriate.

Eco-Example #7

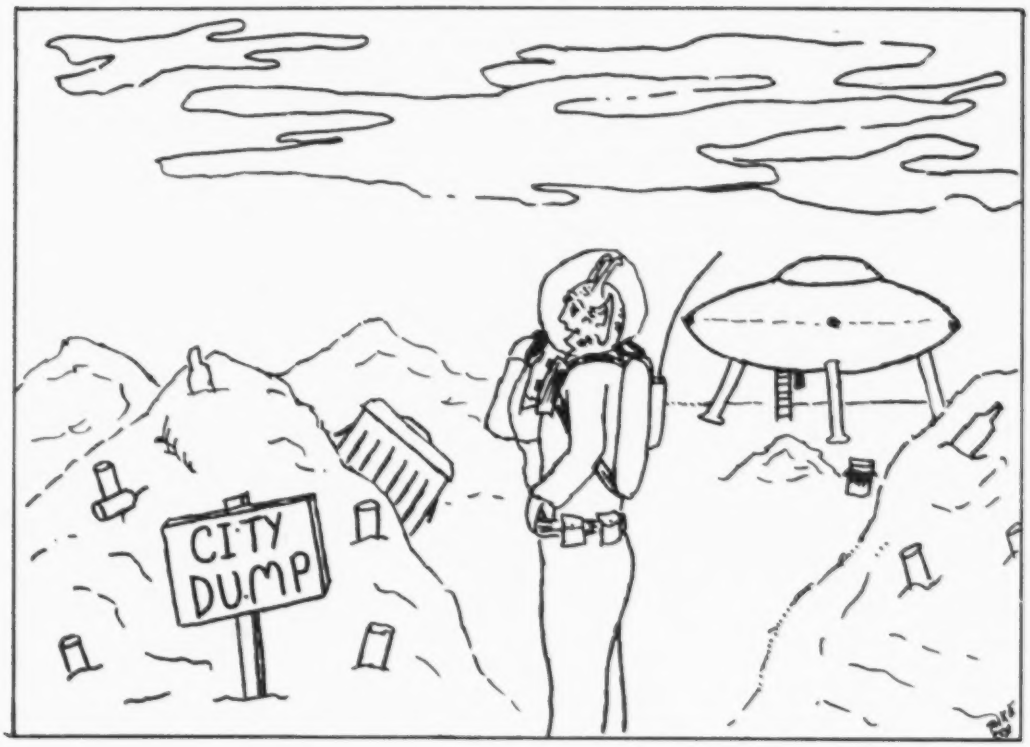
To increase the idea of being ecologically minded, a club, an organization or school class group could urge newspapers to run a contest for submitting ecologically oriented cartoons, and publish them. After the winner is chosen, hold a newspaper "write-a-caption" contest of the winning cartoon.

What's Your Caption?

(27)

Satellite High School at Satellite Beach, here in Brevard County, held a cartoon drawing contest among the student body for depiction of environmental situations. Prizes were given to five students submitting the best ones. The activity not only created interest, but made the students more aware of problems as they looked around for subject matter for their drawings The following are two of the five winners.

Can You Adapt to Your Environment?



THIS IS ZOOG, I HAVE FOUND DEFINITE PROOF THAT INTELLIGENT LIFE DOES NOT EXIST ON EARTH!

Eco-Example #8

Newspaper collections can best be carried out by having a set collection pick-up schedule and a permanent collection place. One ecological project of merit would be to bring some pressure to bear on recycle plants to have a dependable operating schedule. A paper recycling program here in Brevard County, in the city of West Melbourne, used this type of collection plan with permanent scheduling and gathered approximately 40,000 pounds of newspapers and magazines in about three months time. The money collected ($103.00) was donated to the Meadowland Public Library and the town recreation fund. Think of all the paper that was recycled!! --and without a great deal of effort. This is the result of planning and a permanent collection place for bundled newspapers.

Eco-Example #9

Work with radio and television stations for frequent spot announcements about recycling activities, and deposits or pickup schedules. All radio and television stations have a set amount of time during which they are obligated to provide public service announcements and they are usually very cooperative.

Eco-Example #10

Write letters to major industries soliciting them to include, in their national advertising, comments about their environmental plans and programs, such as the Texaco Oil Company did in the February 1972 issue of Forbes magazine.

The Texaco Oil Company stated in that advertisement that they had created a new department for environmental protection with the purpose to guide the company's continuing efforts to help protect the environment. They provided brief descriptions of their many goods and expected schedule. This type of public relations "pays off" with the consumer market.

Eco-Example #11

Information about prices of school notebooks has been requested from the Union Camp Corporation, Chamblee, Georgia 30341, a manufacturer of supplies produced from reclaimed paper. The copy viewed was excellent, smooth quality. Other companies will also be contacted.

This type of information can be made available to school supply stores and procurement divisions. Urge them to buy their paper supplies from reclaimed paper processors!

There is a second benefit here, too. Even if a company does not handle reprocessed paper, the repetitive asking about it will serve to make the company aware of the concern by the public, as well as indicating a possible new source of revenue. They should also be encouraged to reprocess their trimmings, instead of throwing them into the garbage; or perhaps worse, the incinerator.

Eco-Example #12

On an envelope from the Disabled American Veterans was a paper design intended to encourage recycling. The same design was also on the bottom of a Gilman No-tare Sack-in-Sack trademark grocery bag, with the statement, "This paper bag can be reprocessed into paper."

If we urge other manufacturers to print such statements and show a recyclable symbol--this will continue to make more and more people consciously aware of "throw away type containers." The Coca-Cola Company has a recyclable symbol on their new, large bottles now available in Florida.

Research figures show that 5.5 pounds of solid waste per day per person are thrown out, so even if a 1/2 pound of solid waste per day per person is reduced, it could reduce the disposal load by thousands of tons. Let's do everything we can to encourage large numbers of people to re-use and recycle, not replace!

Eco-Example #13

Re-encourage the "Victory-Garden" idea, and/or combine the utility of vegetables in place of purely ornamental plants.

Along with the same idea could be an encouragement to create compost heaps, with the double benefit of garbage reduction, as well as organic fertilizer. It is a well known fact that Florida soil desperately needs organic matter, for it is practically pure sand. It's ironical that the ingredient it needs the most--is what we discard--considering it to be of no value!

Eco-Example #14

Taking a suggestion from the Rotary Club of Indialantic, here in Brevard County, develop a campaign to plant trees.

The Indialantic Rotarians obtained small seedlings, which they made available to other clubs at cost, and pushed a program to get thousands of trees set out in the county. Such a project for any club certainly included much work, and definite watering time schedule; but it stands out in the public's eye saying "Here's a Community that cares!"

PROJECT SURVIVAL

ECOLOGY CLUB

SATELLITE HIGH SCHOOL

JOHN F. KENNEDY SPACE CENTER, NASA

YOUNG MEN'S CHRISTIAN ASSOCIATION OF BREVARD COUNTY, INC.

Metropolitan Offices

Brevard County

BOARD OF COUNTY COMMISSIONERS

STATE OF FLORIDA

GAME AND FRESH WATER FISH COMMISSION

AMERICAN CHEMICAL SOCIETY

CAPE KENNEDY SUB-SECTION

W. KENT FOSTER, CHAIRMAN

Central Catholic High School

100 East Florida Avenue

MELBOURNE, FLORIDA 32901

MERRITT ISLAND LODGE No. 2071

LOYAL ORDER OF MOOSE

Merritt Island, Florida

December 11, 1971

L. B. Humphrey Secretary

P. O. Box 151

US North Banana River Drive

Merritt Island, Florida 32952

Merritt Island Rotary Club

P. O. Box 1122

MERRITT ISLAND, FLORIDA 32952

FLORIDA INSTITUTE OF TECHNOLOGY

MELBOURNE, FLORIDA

SOUTH MERRITT ISLAND

PROPERTY OWNERS ASSOCIATION

INCORPORATED

SATELLITE BEACH LIONS CLUB

aspire

A SOCIETY TO PRESERVE THE INDIAN RIVER ECOLOGY

P.O. Box 3904, Pt. T. Melbourne Beach, Florida 32951

BREVARD COUNTY HEALTH DEPARTMENT

Canaveral PORT AUTHORITY

PHONE 783-7831 PORT CANAVERAL P.O. BOX 267

Post Command Station CAPE CANAVERAL, FLORIDA 32920

November 12, 1970

BREVARD COUNTY COMMUNITY ACTION AGENCY, INC.

Citrus Council of Girl Scouts, Inc.

TEMPLE ISRAEL

P. O. Box 592

MERRITT ISLAND, FLORIDA 32952

UNITED

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN

Melbourne Branch, Florida

13 December, 1971

Canaveral PORT AUTHORITY

PHONE 783-7831 PORT CANAVERAL P. O. BOX 267

Post Command Station CAPE CANAVERAL, FLORIDA 32920

horti point HOMEOWNERS ASSOCIATION, INCORPORATED

P. O. BOX 891 MERRITT ISLAND FLA. 32952

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN

Merritt Island Woman's Club

P. O. Box 205

Merritt Island, Florida 32952

Cocoa-Rockledge Garden Club

INTERNATIONAL TECHNICAL INSTITUTE

FLORIDA INSTITUTE OF TECHNOLOGY

GARDENDALE ELEMENTARY P. T. O.

GROVE BOULEVARD

MERRITT ISLAND, FLORIDA 32952

14 December 1971